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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/689,632	10/13/2000	Jean-Pierre Tahon	4907/Oconalign	8441

7590 12/19/2002
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EXAMINER

HON, SOW FUN

ART UNIT	PAPER NUMBER
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1772

DATE MAILED: 12/19/2002

5

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/689,632

Applicant(s)

TAHON ET AL.

Examiner

Sow-Fun Hon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 1-3, 15 and 16 is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 4-14 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers EP 99203378.7 submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Election/Restrictions

2. Applicant's election of claims 4-14 in Paper No. 4 is acknowledged. Because applicant did not distinctly and specifically point out the supposed errors in the restriction requirement, the election has been treated as an election without traverse (MPEP § 818.03(a)).

Claim Rejections - 35 USC § 112

3. Claim 5 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear what the surface resistivity is, and what the \square as a unit represents.
4. Claim 7 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear what is meant by the "liquid crystal alignment layer is not removed at non-conducting areas" in terms of the structure. Does this mean that the alignment layer is removed at the conducting areas? What are the conducting areas? Is the alignment layer itself made up of a quilt of conducting and non-conducting areas? Is the material of the conducting areas and non-conducting areas the same polythiophene?

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5. Claim 12 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear what the passivating anchor layer is. Is it an adhesive layer? What does it passivate, and what does it anchor?

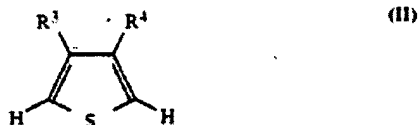
6. Claim 13 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is unclear where the barrier layer is located, and what it is a barrier against.

Claim Rejections - 35 USC § 102

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 4-10, 14 are rejected under 35 U.S.C. 102(b) as being anticipated by Escher et al. (US 5,118,538).

Escher et al. has a liquid crystal display where the alignment layer (orienting) is in direct electrical contact with the associated electrode. The electrically conductive polymer which comprises the alignment layer is a polythiophene of the formula shown below:



where at least one of the two radicals R^3 and R^4 is an alkoxy group and the other is optionally (C_1-C_6) alkyl or hydrogen, have already been described in DE-A 3,717,668, DE-A 3,628,895 and DE-A 3,736,114. The preparation, the stability and electrical conductivity of the various, positively doped polymers were also investigated therein.

Escher et al. teaches that the electrically conductive polymer is coated onto a glass substrate provided with a transparent electrode (column 5, lines 20-50). Since the associated

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electrodes are discrete elements, the alignment layer will have conducting areas where it is in direct electrical contact with the associated electrode, and will have non-conducting areas in between the electrodes.

Since the electrically conductive polymer has a specific conductance of at least 10^{-5} Siemens (column 3, lines 30-40), the examiner has taken the position that the alignment layer has a surface resistivity of the claimed amount.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 6-7, 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Escher et al. in view of Eguchi (US 5,465,165).

Escher et al. has been discussed above and teaches the liquid crystal display with the polythiophene alignment layer with the specific claimed formula. Escher et al. however fails to teach that the electroconductive layer (electrode) is made out of indium tin oxide, the passivating anchor layer, and the barrier layer.

Eguchi et al. teaches a liquid crystal display where the alignment layer may be provided with an electroconductivity selectively at parts above the electrode is as to provide an improvement in prevention of crosstalk between pixels (abstract). The substrate is provided with an electroconductive barrier (protective) layer (film), and also an alignment layer (film)

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comprising an alignment material and a polymeric electroconductive compound. The polymeric electroconductive compound in the alignment layer is disposed selectively on the part having the electrode (column 3, lines 40-60) thus forming a pattern of conducting areas on the parts above the electrode, and leaving the other areas of the alignment layer non-conducting. The transparent electrodes are taught to be indium tin oxide (column 5, lines 10-35). The polymeric electroconductive compound is taught to be polythiophene and derivatives thereof (column 5, lines 55-68).

Although Eguchi et al. fails to teach a passivating anchoring layer between the substrate and the alignment layer, using an adhesive layer to adhere the substrate to the alignment layer in a liquid crystal display is well known in the art.

Because Eguchi et al. teaches that providing a liquid crystal display with an electroconductivity selectively at parts above the electrode prevents crosstalk between pixels, it would have been obvious to one of ordinary skill in the art to have used the patterned alignment layer structure and the associated barrier layer of Eguchi et al. as the alignment layer structure and associated barrier layer in the invention of Escher et al. in order to obtain a liquid crystal display with decreased crosstalk between pixels.

Any inquiry concerning this communication should be directed to Sow-Fun Hon whose telephone number is (703)308-3265. The examiner can normally be reached Monday to Friday from 9:00 AM to 6:00 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Harold Pyon, can be reached on (703)308-4251. The fax phone number for the organization where this application or proceeding is assigned is (703)872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0661.

SH
Sow-Fun Hon
12/12/02

[Signature]
HAROLD PYON
SUPERVISORY PATENT EXAMINER
1/12 *12/14/02*